

1. Find the equation of the line described below. Write the linear equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Perpendicular to  $8x - 7y = 9$  and passing through the point  $(-5, -10)$ .

- A.  $m \in [0.58, 0.96]$   $b \in [-5.8, -5.1]$
  - B.  $m \in [-1.61, -1.05]$   $b \in [-16.4, -11.7]$
  - C.  $m \in [-0.99, -0.78]$   $b \in [-5.3, -4.9]$
  - D.  $m \in [-0.99, -0.78]$   $b \in [11.9, 14.4]$
  - E.  $m \in [-0.99, -0.78]$   $b \in [-16.4, -11.7]$
- 

2. Solve the equation below. Then, choose the interval that contains the solution.

$$-15(-6x + 19) = -14(12x + 4)$$

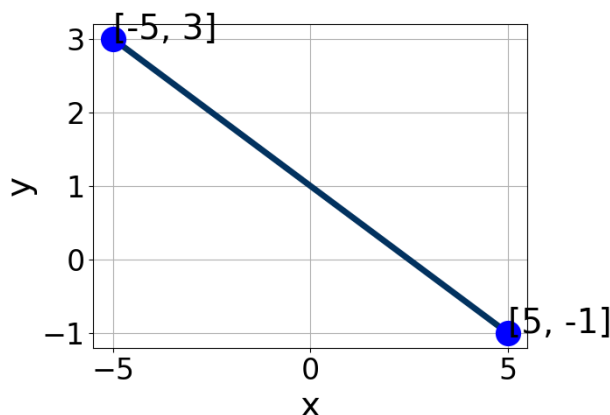
- A.  $x \in [-4.6, -4.26]$
  - B.  $x \in [0.94, 1.57]$
  - C.  $x \in [0.34, 1.31]$
  - D.  $x \in [-1.67, -0.74]$
  - E. There are no real solutions.
- 

3. Solve the equation below. Then, choose the interval that contains the solution.

$$-16(4x + 7) = -11(13x + 5)$$

- A.  $x \in [-1.4, 0.2]$
  - B.  $x \in [1, 2.5]$
  - C.  $x \in [-0.8, 1.2]$
  - D.  $x \in [-2.5, -2]$
  - E. There are no real solutions.
-

4. Write the equation of the line in the graph below in Standard Form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [-3.5, -0.3]$ ,  $B \in [-6.5, -4.5]$ , and  $C \in [-5.8, -1.4]$   
 B.  $A \in [1.9, 3.7]$ ,  $B \in [-6.5, -4.5]$ , and  $C \in [-5.8, -1.4]$   
 C.  $A \in [1.9, 3.7]$ ,  $B \in [2.5, 6]$ , and  $C \in [4.7, 8.4]$   
 D.  $A \in [-0.4, 0.7]$ ,  $B \in [0.2, 1.1]$ , and  $C \in [-0.4, 3.2]$   
 E.  $A \in [-0.4, 0.7]$ ,  $B \in [-1.9, 0.5]$ , and  $C \in [-2.4, -0.8]$

5. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{-3x - 3}{2} - \frac{-7x + 6}{3} = \frac{7x - 4}{8}$$

- A.  $x \in [-3, 1]$   
 B.  $x \in [23, 29]$   
 C.  $x \in [-74, -67]$   
 D.  $x \in [-126, -119]$   
 E. There are no real solutions.

6. Find the equation of the line described below. Write the linear equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Perpendicular to  $8x - 3y = 7$  and passing through the point  $(10, -9)$ .

- A.  $m \in [-0.16, 0.45]$   $b \in [-15.75, -9.75]$
  - B.  $m \in [-0.49, -0.3]$   $b \in [3.25, 8.25]$
  - C.  $m \in [-3.16, -2.5]$   $b \in [-6.25, -1.25]$
  - D.  $m \in [-0.49, -0.3]$   $b \in [-21, -17]$
  - E.  $m \in [-0.49, -0.3]$   $b \in [-6.25, -1.25]$
- 

7. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{-4x - 9}{4} - \frac{5x - 7}{6} = \frac{-5x + 8}{7}$$

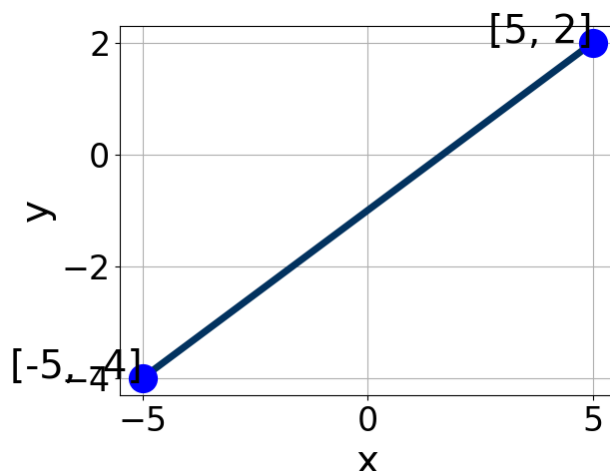
- A.  $x \in [-1.5, 0.7]$
  - B.  $x \in [-4.8, -2.6]$
  - C.  $x \in [-3, -1.3]$
  - D.  $x \in [-9.5, -7.7]$
  - E. There are no real solutions.
- 

8. First, find the equation of the line containing the two points below. Then, write the equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

(8, 11) and (7, -3)

- A.  $m \in [9, 15]$   $b \in [3, 8]$
  - B.  $m \in [9, 15]$   $b \in [-10, -7]$
  - C.  $m \in [-18, -9]$   $b \in [94, 97]$
  - D.  $m \in [9, 15]$   $b \in [-101, -95]$
  - E.  $m \in [9, 15]$   $b \in [101, 103]$
- 

9. Write the equation of the line in the graph below in Standard Form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [1.4, 6.1]$ ,  $B \in [-5.4, -3.64]$ , and  $C \in [3.4, 8.8]$
- B.  $A \in [-3.6, -2.4]$ ,  $B \in [4.83, 5.33]$ , and  $C \in [-7.3, -4.3]$
- C.  $A \in [-1.6, -0.5]$ ,  $B \in [0.66, 1.66]$ , and  $C \in [-2, -0.8]$
- D.  $A \in [1.4, 6.1]$ ,  $B \in [4.83, 5.33]$ , and  $C \in [-7.3, -4.3]$
- E.  $A \in [-1.6, -0.5]$ ,  $B \in [-2.39, -0.89]$ , and  $C \in [-0.7, 4.8]$

10. First, find the equation of the line containing the two points below. Then, write the equation in the form  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

$(-8, 11)$  and  $(10, -5)$

- A.  $m \in [0.5, 1.8]$   $b \in [-14.8, -12.7]$
- B.  $m \in [-3.7, 0.5]$   $b \in [1.6, 6.1]$
- C.  $m \in [-3.7, 0.5]$   $b \in [-16, -14.5]$
- D.  $m \in [-3.7, 0.5]$   $b \in [17.8, 21]$
- E.  $m \in [-3.7, 0.5]$   $b \in [-4.4, -1.9]$